

What is Claimed is:

1. An arrangement for holding a particle beam apparatus, in particular a transmission electron microscope, comprising:  
5                   a base structure comprising a plurality of hollow bodies,  
at least one of said hollow bodies having a first length extension in a first direction, a second length extension in a second direction and a third length extension in a third direction, said length extension in said first direction being larger than said length extensions in said second  
10                  and third directions, and  
  
                  wherein a cross section of said at least one of said hollow bodies perpendicular to said first direction is substantially triangular.
2. The arrangement of claim 1, wherein said cross section of said at least  
15                  one of said hollow bodies varies in said first direction.
3. The arrangement of claim 1, wherein said at least one of said hollow bodies has a first and a second outer surface being in contact to each other and forming an edge, and wherein a cross section through said  
20                  edge having the form of the letter "L".
4. The arrangement of claim 1, wherein said cross section of said at least one of said hollow bodies has curved boundaries.

5. The arrangement of claim 1, wherein said base structure has a hollow base element and at least two arms extending from said base element.
- 5 6. The arrangement according to claim 5, wherein each of said arms comprises an end on a side opposite to said base element and wherein a distance between said arms diminishes from said ends of said arms in the direction of said base element.
- 10 7. The arrangement according to claim 6, wherein said arms and said base element form substantially a U-shape.
8. The arrangement according to claim 6, wherein said arms and said base element form substantially a V-shape.
- 15 9. The arrangement according to claim 5, wherein said base element comprises a front wall, a back wall and a side wall, said front wall, said back wall and said side wall forming said hollow base element, and wherein said arms extend from said front wall of said base element.
- 20 10. The arrangement according to claim 5, wherein at least one of said arms is formed as a hollow body

11. The arrangement according to claim 10, wherein said at least one arm comprises surfaces which form said hollow body, wherein said surfaces may comprise a front wall, a back wall and at least one side wall, and wherein said front wall, said back wall and said at least one side wall of said at least one arm form said hollow body.
12. The arrangement according to claim 11, wherein said side wall of said at least one arm is arranged at said base element.
13. The arrangement according to claim 12, wherein said side wall of said at least one arm is arranged at said back wall of said base element.
14. The arrangement according to claim 5, said base structure further comprising a support element arranged on said base element, wherein said support element comprises a back wall and at least two side walls, and wherein said back wall of said support element is arranged on said back wall of said base element.
15. The arrangement according to claim 14, wherein said back wall of said support element and said back wall of said base element are integrated.

16. The arrangement according to claim 14, wherein said side walls of said support element form substantially a U-shape.
17. The arrangement according to claim 14, wherein said side walls of said support element are integrated.
18. The arrangement according to claim 14, wherein said base structure further comprises side elements with side walls and a connecting area in which a link element is arranged, and wherein said side walls of the support element or said side walls of the side elements are connected with each other via said link element in said connecting area.
19. The arrangement according to claim 18, wherein a bracket is arranged at said connecting area, said bracket extending in a curve along the side walls from said connecting area to said arms.
20. The arrangement according to claim 5, wherein a side element is arranged at said base element.
21. The arrangement according to claim 20, wherein said side element comprises a triangular profile.

22. The arrangement according to claim 20, wherein said side element is formed at least partially of said side wall of said support element.
23. The arrangement according to claim 5, further comprising at least three  
5 bedding devices for bedding a supporting structure.
24. The arrangement according to claim 23, wherein said bedding devices are damping elements.
- 10 25. The arrangement according to claim 24, wherein said damping elements are pneumatic.
26. The arrangement according to claim 1, further comprising at least three footings.
- 15 27. The arrangement according to claim 26, wherein said arrangement comprises four footings, one of said footings being mounted force loaded.
- 20 28. The arrangement according to claim 1, wherein said base structure has a lowest eigenfrequency of greater than or equal to 40 Hz.

29. The arrangement according to claim 1, wherein said base structure has a lowest eigenfrequency of greater than or equal to 70 Hz.
30. The arrangement according to claim 1, wherein said base structure has  
5 a lowest eigenfrequency of greater than or equal to 80 Hz.
31. The arrangement according to claim 5, wherein said base element comprises a box-like structure with a top wall and a bottom wall, wherein said top wall is inclined with respect to said bottom wall.  
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32. The arrangement according to claim 14, wherein said support element comprises at least partially a closed profile.
33. The arrangement according to claim 20, wherein said side element  
15 comprises at least partially a closed profile.
34. The arrangement according to claim 1, wherein at least one of said hollow bodies comprises surfaces with at least one opening.
- 20 35. The arrangement according to claim 1, wherein said arrangement is at least partially casted.

36. The arrangement according to claim 1, wherein said arrangement is at least partially a welded construction.
37. The arrangement according to claim 23, further comprising a supporting structure for holding a particle beam apparatus which is arranged on said bedding devices.
38. The arrangement according to claim 37, said arrangement having a base structure having an eigenfrequency, and wherein said supporting structure has an eigenfrequency greater than or equal to said eigenfrequency of said base structure.
39. The arrangement according to claim 38, wherein said supporting structure has a lowest eigenfrequency of greater than or equal to 80 Hz.
40. The arrangement according to claim 38, wherein said supporting structure has a lowest eigenfrequency of greater than or equal to 120 Hz.
41. The arrangement according to claim 38, wherein said supporting structure has a lowest eigenfrequency of greater than or equal to 140 Hz.

42. A particle beam apparatus comprising:

a particle optical column including a particle source and particle optical components;

5 a base structure comprising a plurality of hollow bodies, said particle optical column being suspended on said base structure, at least one of said hollow bodies having a first length extension in a first direction, a second length extension in a second direction and a third length extension in a third direction, said length extension in said first direction being larger than said length extensions in said second and third directions; and

10 wherein a cross section of said at least one of said hollow bodies perpendicular to said first direction is substantially triangular.

43. A particle beam apparatus comprising:

a particle optical column including a particle source and particle optical components;

5 a base structure comprising a plurality of hollow bodies, said particle optical column having a centre of gravity, said particle optical column being suspended on said base structure with an suspension center near or above said center of gravity of said particle optical column.

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44. An arrangement for holding a particle beam apparatus, in particular a transmission electron microscope, comprising:
- a base structure,
- 5               said base structure having four footings, wherein one of said footings being moveable with respect to said base structure, and wherein a movement of said one of said footings is force loaded.
45. The arrangement of claim 44, wherein said one of said footings
- 10               comprises a brake by which a movement of said one of said footings with respect to said base structure can be blocked.
46. The arrangement of claim 44, wherein said footings are arranged at said base structure at attachment regions,
- 15               said base structure having values of stiffness in said attachment regions, and said at least one of said footings being moveable with respect to said base structure, being attached to said base structure at one of said attachment regions in which said base structure has the lowest value of stiffness.
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47. A particle beam apparatus holding arrangement for holding a particle beam apparatus, in particular a transmission electron microscope, comprising an arrangement according to one of the claims 1 to 46.